

P I M C O

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*via Federal Express*

March 3, 2009

Mr. Richard L. Mayfield, CFA  
Capital Markets Specialist  
Office of Corporate Credit Unions  
National Credit Union Administration  
1775 Duke Street  
Alexandria, VA 22314-6113

Dear Rick:

You will find enclosed the hard copy of the Consultancy Report for NCUA.  
The report consists of four binders.

Please contact me if you need copies of specific sections and/or copies of the entire report.

Best regards,

(b)(4)

Senior Vice President – Product Manager

PCT:cdm

Enclosures

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Individual RMBS Analyses

February 26, 2009

**National Credit Union Administration**  
1775 Duke Street  
Alexandria, VA 22314

Attention: **Scott Hunt and Rick Mayfield**

Re: Portfolio Analysis - Investment Advisory Service

Scott and Rick,

Attached please find our completed assessment of expected loss for the portfolios you have presented to us, based on our engagement letter from January 29, 2009. As agreed, we have analyzed and provided loss assessments for all 2,007 bonds. For approximately 250 of these bonds (mostly 2<sup>nd</sup> Liens and Home Equity Lines of Credit), loan level data was not available, so we provided summary data in a spreadsheet instead of the two page summary.

These materials are delivered to you in accordance with and subject to the provisions of the Investment Advisory Services Agreement. We have delivered electronic copies by email and hard copies via mail. Please let us know if you would like additional printed copies.

Attached you will find the following parts of our consultancy report:

1. Introduction and Executive Portfolio Summary
2. Analysis of Market Conditions
3. Evaluation of Government Policy Developments
4. Assessment of Possible Courses of Action
5. Description of Modeling Methodology
6. Analysis of Servicers

File Attachment 1 – Presentation of Results of NCUA Portfolio Analysis

File Attachment 2 – Assessment of Fair Value

File Attachment 3 – Bond Specific Summaries

File Attachment 4 – *Investment Outlook* by Bill Gross

Thank you again for choosing PIMCO Advisory Services. We are truly honored.

Best wishes,

(b)(4)

Senior Vice President  
PIMCO

CONFIDENTIAL

# PIMCO Advisory



**Consultancy Report**  
**National Credit Union Administration**  
February 26, 2009

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## 1. Introduction – Executive Portfolio Summary

We are pleased to provide NCUA with your completed report and accompanying valuation analyses, at the aggregate portfolio, sub-portfolio and individual asset levels. At your request, we are focused on valuing the assets and ultimately providing an assessment of the timing of losses under pessimistic, base and optimistic scenarios.

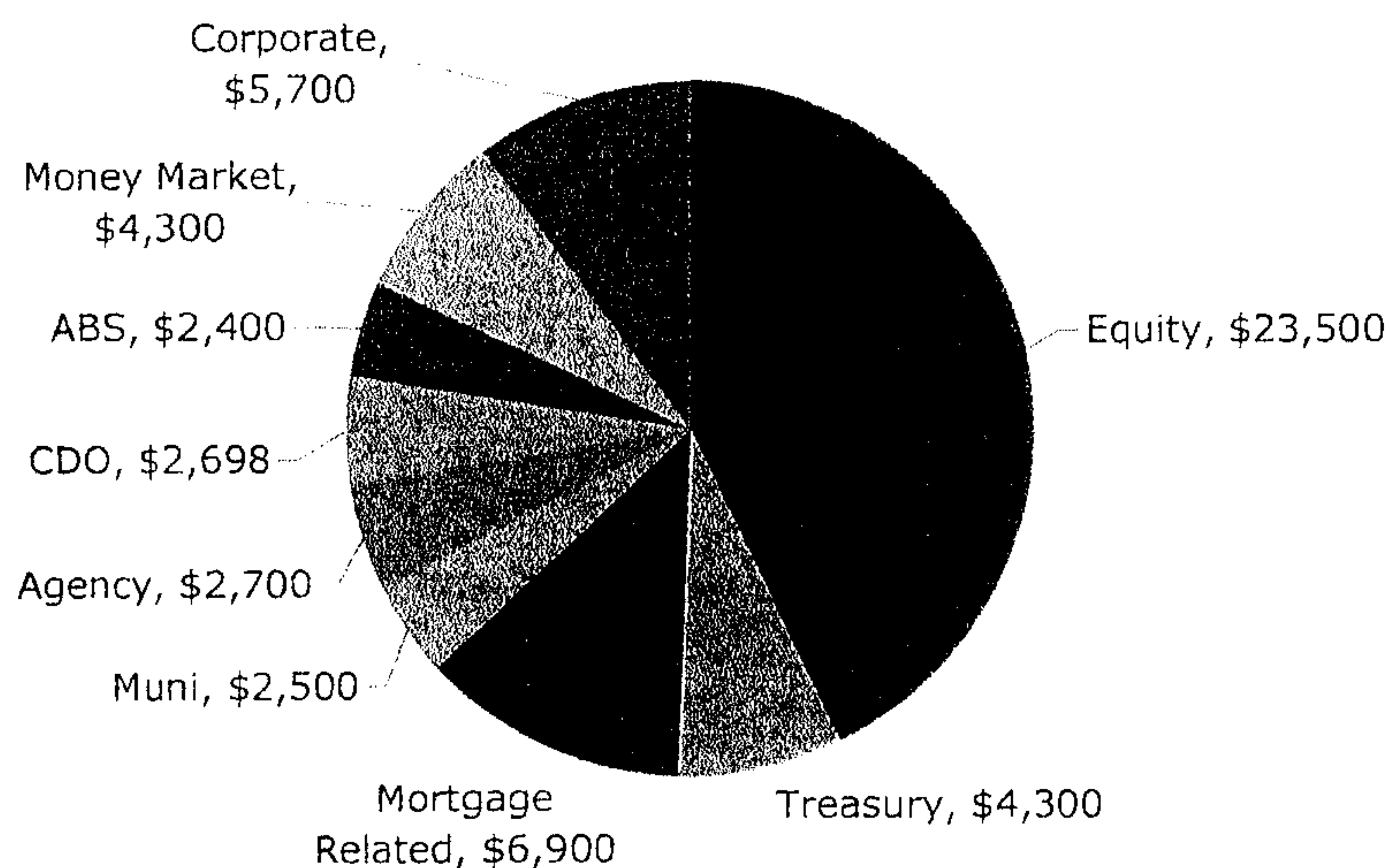
PIMCO's process incorporates both top-down macroeconomic views and granular analysis of each asset. To provide context for your analysis, we have included a discussion of the qualitative market forces that are impacting your portfolio, e.g., home prices, public policy and servicer performance. Importantly, we discuss various strategies for reducing risk based on the specifics of your portfolio. Finally, we attach a summary of the analytical framework that we employed for this analysis.

We are witnessing a massive deleveraging of the global economy driven initially by poorly underwritten mortgages, which led ultimately to failures of some of the world's largest financial institutions. We are seeing banks, corporations and consumers forced to sell nearly every type of asset. This has resulted in a sharp decline in the value and liquidity of risk assets and a concurrent increase in volatility.

Until recently, few understood how integral to the global financial infrastructure structured products truly were. For decades, they were considered an esoteric part of the fixed income markets. It is now painfully obvious that they touched nearly every aspect of the global economy. For example: leveraged buyouts were financed via collateralized loan obligations (CLOs); home mortgages via residential mortgage-backed securities (RMBS); consumer credit such as credit cards, student loans and auto loans through asset-backed securities (ABS); and commercial real estate through commercial mortgage-backed securities (CMBS). These esoteric assets were held directly and indirectly by nearly everyone, including "risk-free" money market funds that invested heavily in commercial paper (CP) issued by structured vehicles. Issuance of structured credit peaked around June 2007. At that point in time there was approximately \$5.1 trillion of dollar-denominated funded structured credit outstanding. To put this in context, this is nearly as big as the corporate debt market at that time.



US Capital Markets Outstanding  
As of June 2007 (Billions of USD)



SOURCE: SIFMA

The portfolio you asked PIMCO to analyze is composed of residential mortgage-backed securities (RMBS) and collateralized debt obligations (CDOs). As such, its performance is driven by several important factors, e.g., real estate prices, public policy and servicer impacts, bankruptcy carve-outs, loan modifications and cram-downs. The impact of these factors can change dramatically based on policy decisions and market conditions.

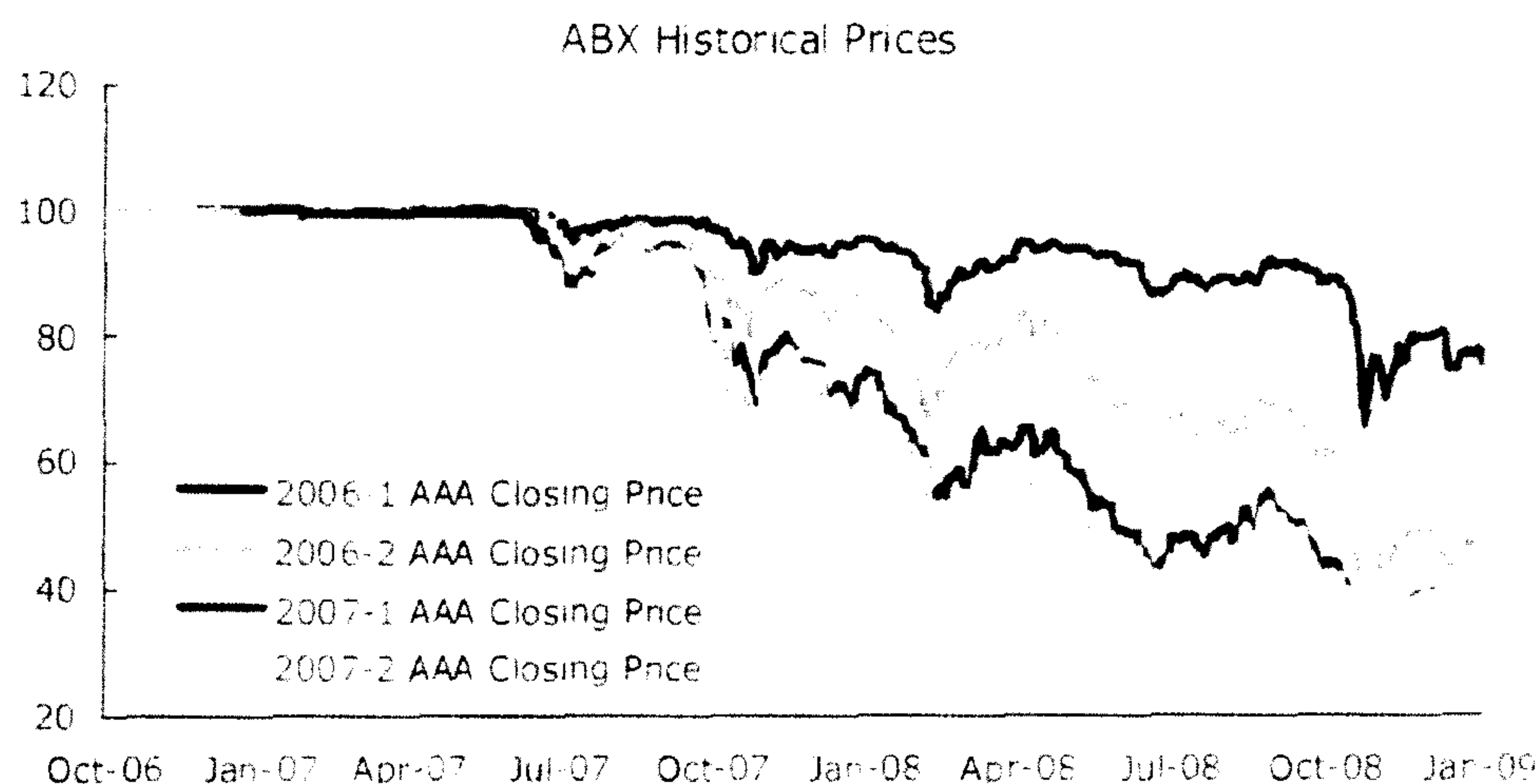
- Policy changes could have either a positive or negative impact on mortgages; however, the impact on your portfolio is largely dependent upon the specifics of each tranche.
- Contingent on the enactment of bankruptcy reform, a feature of the pending H.R. 1106, carve-outs, if applicable, increase the probability that senior bonds that would not otherwise take a loss could suffer a small loss, e.g., 0%–2%. Consequently, the impact on loss forecasts is small, but could result in a material risk of downgrade of senior tranches. Note that based on developments this week, we believe the probability of this applying is materially reduced.
- Servicer Safe Harbor and incentive payments to servicers for performing modifications are each features of the pending H.R. 1106; they will combine to increase the frequency and loan-level impact of modifications in non-Agency RMBS.
- The mezzanine tranches of Alt-A, Prime & Prime Option adjustable-rate mortgages (ARMs) are highly levered to the negative outcomes associated with aggressive streamlined loan modifications that are performed under the auspices of servicer-harbor legislation and bankruptcy court-imposed principal-balance reduction modifications (i.e., cram-downs). This composes approximately 25% of your portfolio.

It is important to note that our base case incorporates not just a weakening of the housing market, but also the potential benefits to the housing market from positive policy responses.



## 2. Analysis of Market Conditions

Residential Mortgage Backed Securities (RMBS) continue to deteriorate from a fundamental credit and pricing perspective, as illustrated by the following chart of historical ABX pricing. This is a reflection of continuing increases in delinquency rates, declines in home prices and regulatory changes such as mortgage cram-downs and streamlined loan modifications. The loss estimates have not recently increased as much as in other fixed-income sectors over the last quarter because the poor credit performance in RMBS has persisted over the last 1-2 years and is experiencing some burnout especially for the 2004-2005 vintages.



### *Home Prices, Non-Agency Concentration, and Unemployment*

Nationally and across the major regions, house prices have continued their decline, with further year-on-year price declines registered in all the major cities in the S&P/Case-Shiller Home Price Index. In the composite of 20 major U.S. cities (metropolitan statistical areas (MSA)), home prices have fallen over 18% since November 2007, and have fallen over 27% from their peak. The specific city breakouts are listed below:



MSA	1-Year Home Price Change	MSA	Peak to Trough Price Change (Change/Peak)	
Phoenix	-34.0%	Phoenix	-45.5%	Jun-06
Las Vegas	-33.0%	Las Vegas	-44.0%	Aug-06
San Francisco	-31.2%	Miami	-41.3%	Dec-06
Miami	-28.8%	San Francisco	-40.4%	May-06
Los Angeles	-26.4%	San Diego	-39.2%	Nov-05
San Diego	-24.8%	Los Angeles	-37.4%	Sep-06
Tampa	-22.0%	Detroit	-36.3%	Dec-05
Detroit	-21.7%	Tampa	-34.5%	Jul-06
Washington	-19.2%	Washington	-29.8%	May-06
Minneapolis	-18.5%	Minneapolis	-25.8%	Sep-06
Chicago	-14.3%	Chicago	-18.6%	Sep-06
Seattle	-13.4%	Seattle	-16.7%	Jul-07
Portland	-13.1%	Atlanta	-16.6%	Jul-07
Atlanta	-12.2%	Boston	-16.1%	Sep-05
New York	-9.4%	Portland	-15.0%	Jul-07
Charlotte	-7.2%	New York	-15.0%	Jun-06
Boston	-7.0%	Cleveland	-14.8%	Jul-09
Cleveland	-6.1%	Denver	-10.4%	Aug-06
Dallas	-4.3%	Charlotte	-9.9%	Aug-07
Denver	-4.0%	Dallas	-8.6%	Jun-06
Composite of 20 MSAs: -18.6%		Composite of 20 MSAs: -27.1%		

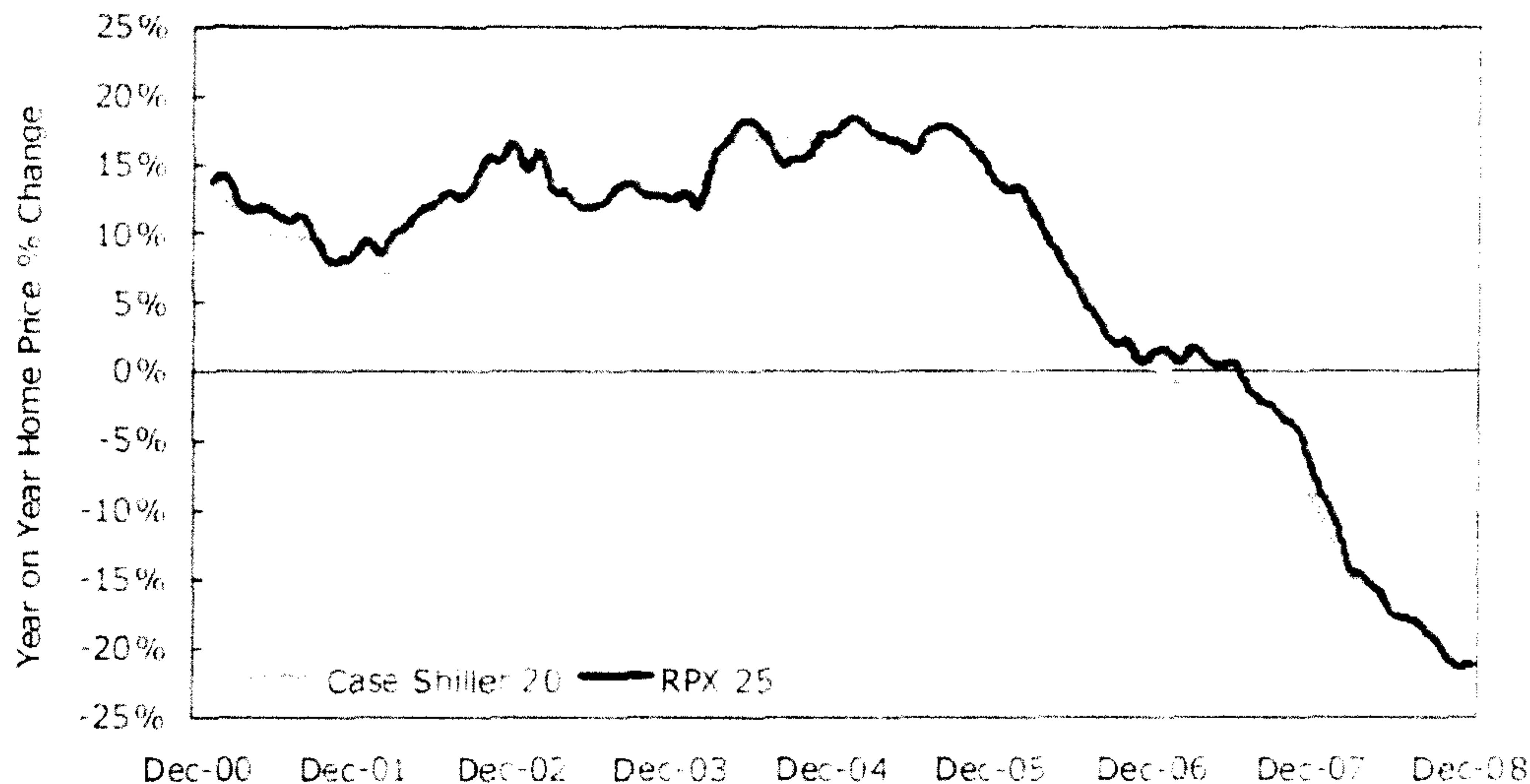
As the crises in the housing and financial markets continue, regional differentiation with respect to house price depreciation is increasing markedly. In December 2007, the range between the most severe peak-to-trough depreciation area (San Diego) and the least severe area (Portland) was 17%. Currently, the spread between best and worst performing regions has more than doubled to 37% (Dallas and Phoenix.)

The growing dispersion between regions in home price depreciation can largely be attributed to the concentration of non-Agency mortgages in a given area, with the notable exception of the housing market in Detroit and its previously unique unemployment issues. Areas with the highest concentrations of non-Agency mortgages (AZ, CA, FL, NV) have been hardest hit by falling home prices as affordability products like Pick-A-Pay mortgages and no-doc loans created the earliest and largest run up in home prices. With the non-Agency loan origination market closed and increasing numbers of borrowers unable to refinance into higher credit quality and larger down-payment Agency mortgages, these houses are being foreclosed on and sold back into the market at severe discounts, driving down all house prices.

In addition, the effect of rising unemployment will further weigh on home prices as demand for housing decreases further.

The path of home prices over the last decade can be seen in the graph below. While the S&P/Case-Shiller Composite is an index tracking home prices across 20 major metropolitan areas, the RPX 25 Index is a tradable composite based on housing prices per square foot across 25 major metropolitan areas. As the graph shows, the housing market crossed into year-over-year declines in mid-2007 and continued its fall uninterrupted throughout all of 2008 and during the first quarter of 2009.

RPX 25 Index vs Case Shiller 20 Composite Index



The RPX property price index is implying significant further declines in home prices.

RPX Peak To Trough Home Prices



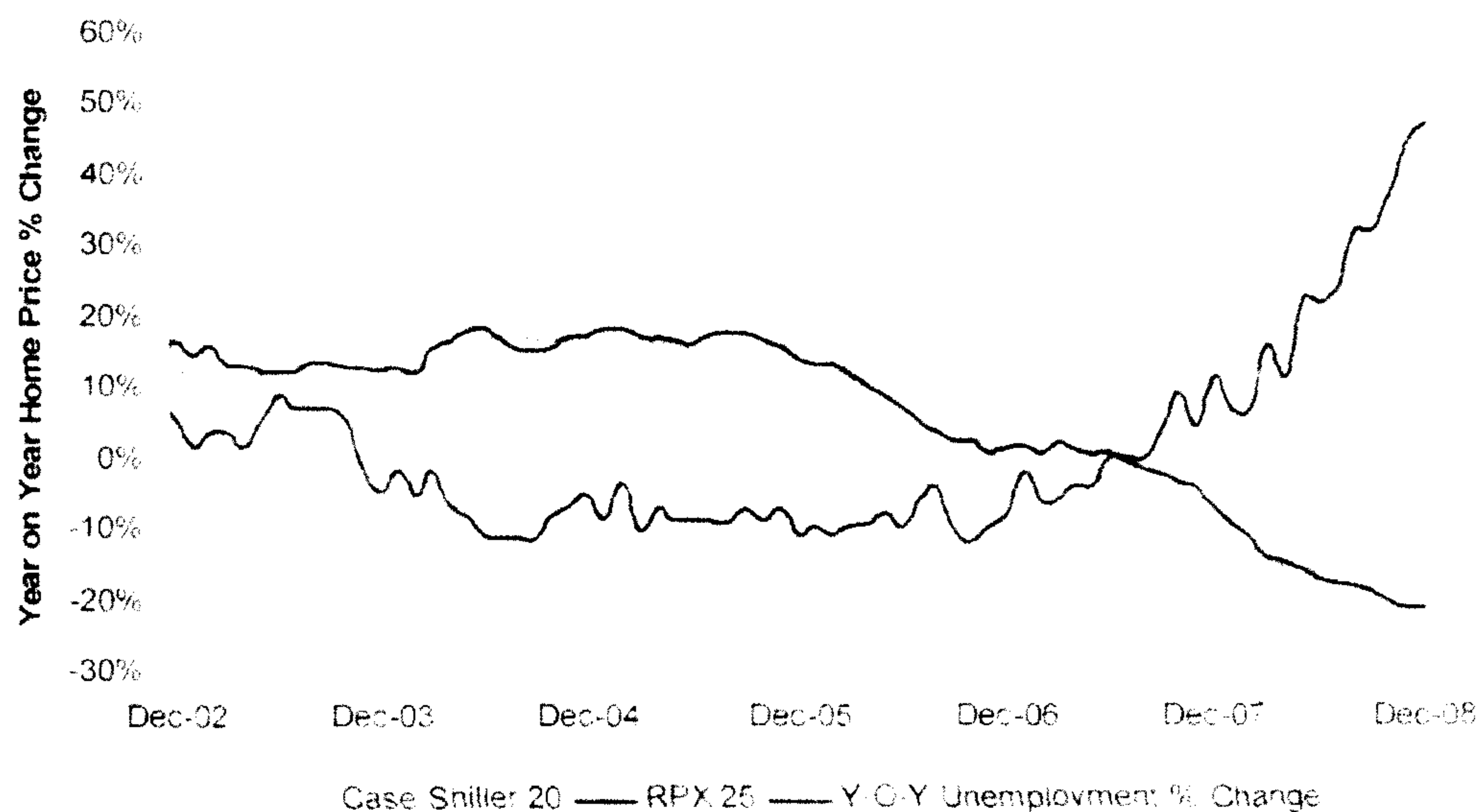
RPX is a home price index based on actual transactions across 25 MSAs. This index is published daily with a 63-day lag. An over-the-counter (OTC) market based on forwards on the RPX provides insight into the forward home price path implied by the market. We use implied home price appreciation from this OTC market as one of the inputs for our forward projections.



Currently, RPX is implying a bottom in 2010 with a peak-to-trough decline of 42% (19% lower than current prices).

The systemic de-leveraging catalyzed by the steep and persistent decline in national house prices has, as displayed in the following chart, resulted in credit contraction sufficient to cause substantial increases in unemployment. This has resulted in a flurry of public policies intended to break the vicious cycle of deleveraging, asset-price deflation, credit contraction and unemployment.

RPX 25 Index vs Case Shiller 20 Composite Index vs Unemployment Rate





### 3. Evaluation of Government Policy Developments

Program	\$ Allocated	Specific Program Goal	PIMCO Views
Fannie/Freddie Conservatorship	\$200 Billion	Prevent collapse of Government-Sponsored Entities (GSE) and ensure mortgage capital flow	(b)(4)
Troubled Assets Relief Program (TARP) I	\$350 Billion	Stabilize financial markets	
Federal Reserve & U.S. Treasury MBS Purchase Programs	\$500+ Billion	Stimulate home purchases through lowering conforming mortgage rates	
Term Asset-Backed Securities (ABS) Loan Facility (TALF)	\$200 Billion	Increase availability of consumer credit by replacing structured investment vehicle (SIV) / collateralized debt obligation (CDO) demand for consumer ABS	
Financial Stability Plan (Obama Plan)	\$350 Billion	Continue to recapitalize the banking system, directly address foreclosure prevention, with a probable extension to troubled asset purchases	
Public-Private Investment Fund (PPIF)	Up to \$1 Trillion	Cleanse financial institution balance sheets of legacy assets	
TALF Expansion	\$100 Billion	Increase availability of all ABS credit by replacing SIV/CDO demand	
Homeowner Affordability and Stability Plan (HASP):			
Hope for Homeowners	up to \$75 Billion	Keeping homes off the market by providing expanded refinancing options and restoring equity	
Bankruptcy Reform	n/a	Keeping homes off the market by eliminating negative equity	
Loan Modifications & Servicer Safe Harbor	up to \$75 Billion	Keeping homes off the market by eliminating negative equity	
Fannie/Freddie	\$200 Billion	Stabilize the balance sheets of Fannie and Freddie and support the guarantee on Agency MBS	

## Appendix A: Description of Modeling Methodology

### Overview

In the combined portfolio, there are a total of approximately \$44.5 billion of residential mortgage-backed securities (RMBS). The loss expectations for these securities were derived primarily from scenario analyses using PIMCO's proprietary loan loss model, assuming the base, stress, and optimistic cases derived from PIMCO's economic outlook.

Once a market-based loss indication and the base, stress and optimistic scenarios are compiled, we review each security individually to ascertain whether the output is reasonable and in line with our expectations. We are mindful that there are limitations to any model, particularly with respect to Alt-A and pay-option securities. For example, even if we agree with the ultimate cumulative loss the model predicts on an individual pool, the timing of the cash flow can shift expected losses throughout the capital structure, treating some securities too harshly or not harshly enough. Thus, the analyst will override the model's output if they believe it is inconsistent with our expectations.

The following are important market indicators we review:

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## PIMCO Fundamental Analysis

PIMCO's residential mortgage model allows the entire RMBS portfolio to be reviewed in the same consistent format. This appendix provides a detailed summary of our mortgage model.

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It is important to note that our base case incorporates not just a weakening of the housing market, but also the potential benefits to the housing market from positive policy responses. The table below outlines our expectations for ultimate cumulative losses (on average) on various RMBS sectors.

Loss Estimates (As a % of Original Balance)					
Pay Option			Subprime		
05 Vintage	06 Vintage	07 Vintage	05 Vintage	06 Vintage	07 Vintage
(b)(4)					
Alt-A			Prime		
05 Vintage	06 Vintage	07 Vintage	05 Vintage	06 Vintage	07 Vintage
(b)(4)					

Each RMBS security is reviewed by a PIMCO analyst to assess the validity of the market indicators and the mortgage model's output, based on the idiosyncratic characteristics of the security. These characteristics include originator and issuer effects as well as the structural aspects of each individual security. In the event an analyst identifies an idiosyncratic or structural dynamic not incorporated in the model, the analyst adjusts the output accordingly.

Pricing for most of the RMBS was derived primarily from third-party vendor marks and PIMCO analysts.

Our general conclusion is that risk premiums are high in the RMBS sector, particularly when based on the loss estimates in the above table, given the various policy-based uncertainties specific to the sector, including: (1) proposed bankruptcy reforms (e.g., principal cram-downs) and (2) streamlined bulk modifications based on policy preferences as opposed to maximizing investor outcomes. The uncertainty created by these policy issues leads to a material divergence between our estimates of base-case losses and losses implied in the current market prices of these securities. Accordingly, our general conclusion is that current market pricing is overly pessimistic.



## PIMCO Mortgage Credit Model

The PIMCO residential mortgage credit model – henceforth referred to as the credit model – is an internally developed proprietary tool used to predict principal and interest payments, or cash flow, associated with (i) a residential mortgage loan, (ii) any pool of loans, and (iii) by extension, any security whose cash flow is derived from the cash flows of the underlying pool(s) of mortgages.

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## Residential Mortgages

A residential home mortgage is a contract under which a borrower pledges his house as collateral for a loan issued by a mortgage originator. The mortgage contract typically gives the borrower the explicit right to prepay or refinance his mortgage. This occurs often at the borrower's expense of paying specific prepayment penalties. The borrower may exercise the prepayment option if prevailing market interest rates sufficiently decline so that this action becomes financially optimal. The option may also be exercised in order to "cash out" home equity that has accumulated over time through principal payment and home price appreciation.

Implicitly, the borrower also receives a default option which, when exercised, gives up the collateral of the home for failing to adhere to the terms of the mortgage contract. Thus, the mortgage contract gives the lender the right to foreclose on the loan and take possession of the collateral in the event that the mortgagor fails to make the scheduled principal and interest payments. This event is referred to as a default. When a borrower defaults on a loan of, for example, a \$100k principal balance, the entire \$100k balance is not lost. The lender, having taken possession of the home collateralizing the loan, may sell the property and thus mitigate the net loss. The proportion of the remaining loan balance, which is lost in the event of default, is referred to as the loss severity ratio or loss given default.

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## Market Sectors

The conventional U.S. residential mortgage market (non-FHAVA) is generally classified by different sectors, depending on the creditworthiness of the borrower and the degree of underwriting of the mortgage. Major segments recognized by market participants include:

1. *Conforming Prime*: borrowers with good credit history.
2. *Jumbo Prime*: borrowers with good credit history *and* a loan balance exceeding the conforming loan limit.
3. *Alt-A*: borrowers with fair credit history, but with loans that for some reason do not meet the standards for Agency prime securitization programs (e.g., limited income verification and documentation)
4. *Subprime*: borrowers with blemished credit history.

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## Model Specification

Input into the credit model includes, but is not limited to, the following information:

### 1. Static loan level attributes

- a.
- b.
- c.
- d.
- e.
- f.
- g.
- h.

(b)(4)

### 2. Dynamic loan level attributes

- a.
- b.
- c.
- d.

(b)(4)

3. Historical borrower payment history

- a.
- b. (b)(4)

4. Economic drivers

- a.
- b. (b)(4)

(b)(4)

Based on the above factor inputs, the credit model projects loan level monthly estimates for the following measures:

- 1) The conditional prepayment probability
- 2) The conditional default probability
- 3) The conditional 60+ day OTS (Office of Thrift Supervision) delinquency rate
- 4) Loss severity ratio

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## Model Estimation Data

The model is estimated using a sample of data from the (b)(4) historical database, a third-party vendor of mortgage performance data on a large fraction of the securitized universe (b)(4). The population used to derive the estimation sample consists of loans originated since 1997. The data set used in calibrating the credit model parameters covers 10%–50% of all mortgages that are in the (b)(4) database.

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## Model Specification

As described, the credit model yields monthly loan level forecasts

(b)(4)

The credit model therefore includes eight transitions that govern the evolution of each loan over time.

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## Monthly Transition Probabilities

To estimate the eight monthly transitions, logistic regression is applied to obtain coefficients associated with the credit model covariates. Maximum likelihood estimation using the SAS statistical application is the method of choice to recover information on model coefficients.

Estimated coefficients are subsequently used in the following equation to yield model transition probabilities using the following equation:

(b)(4)

(b)(4)

Separate parameter sets and equations exist for the eight transitions, and Monte Carlo simulation is applied to determine the expected evolution of loan states for each loan over time.

### Severity Model

The loss severity ratio is defined as net credit loss divided by current loan balance. For example, for a loan with a current balance of \$100k and predicted loss of \$40k at default, the predicted severity ratio would be 40%. Severity is defined as loss given default. Mortgage default is defined for purposes of the severity model estimation to be consistent with the definition used in the default model.

The net loss number used for modeling severity is reported by the respective servicers contributing to the estimation database and will for almost all servicers be calculated as the sum of multiple loss components. These components include

- 1) Collateral deficiency (unpaid loan balance – REO [real estate owned] sales price)
- 2) Lost interest (accrued as servicer advances interest on non-performing loans to the security)
- 3) Expenses (including legal expenses, selling expenses, taxes and insurance)

Historical loss severity numbers (b)(4) are net of Primary Mortgage Insurance (PMI) proceeds. PMI coverage is one of the explanatory variables used to predict net loss severity.

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### Model Estimation

The model coefficients can be estimated jointly as a multinomial logistic system of equations. Alternatively the coefficient vectors can be estimated separately as pairs of uncoupled binary logistic regression equations. In both approaches, maximum likelihood estimation forms the basis of information recovery on the unobservable set of parameters. SAS is the statistical software tool used to accomplish this task. The loss given default component as described

above consists of a linear specification for which parameter coefficients can be readily estimated using the least-squares regression method.



Appendix B: Analysis of Servicers

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### Servicing Advances

According to PSAs, servicers are obligated to advance principal and interest for delinquent loans until it is deemed that future advances would no longer be recoverable. The servicer's main obligation is to maximize the net present value of the loan to the trust. Prior to 2007, the cost of financing advances was not a significant obstacle for servicers. Previously, a servicer would have to fund 5% of the advances from their own capital and the remaining 95% of the advances would be financed at a cost of approximately LIBOR+50bps (London interbank



offered rate). As delinquencies have increased at a tremendous pace and access to wholesale financing has been significantly curtailed, servicers who have the benefit of a strong and stable parent have found themselves under far less financial duress, as they are able to access funding through their parent company. Servicers (b)(4) have been able to rely on (b)(4) during these tumultuous times, whereas servicers such as (b)(4) have been financially hindered due to this dramatic increase in cost. Servicers are now forced to pay 20%–25% of the advances of principal and interest on delinquent loans from their own capital, and the cost to fund the remaining advances has increased to LIBOR+500–700bps and above.

This increase in cost is attributable to the bursting of the housing bubble and the exponential increase in delinquencies. It has forced servicers to increase the amount of money borrowed at higher market rates.

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PSAs give servicers a great deal of latitude in deciding when to stop paying advances. The trustee and investors are therefore relying on the good faith of the servicer to make such decisions. In the past, servicers were not inclined to stop advances, as home prices were increasing and both delinquencies and advance costs were low. As we approached the end of 2008, servicers sharply changed their practices and increasingly limited the payments of advances. Low balance loans along with loans in particular parts of the country (e.g., Michigan, Ohio, parts of Florida, Nevada and California) are all facing steeper haircuts in their values, ultimately leading to the decision to stop paying advances. As a result, the trust is faced with a curtailment of income and particularly subordinate tranches, which are currently valued as IOs (interest only), are seeing sharper declines in even the IO value.

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## Overview of Possible Modification Programs and Actions

### Streamlined Loan Modification Guaranty Programs (SMP)

- Objective: Foreclosure prevention by restoring borrowers' performance through concessions to rate, term and/or principal to lower borrowers' payments, but not so much as to generate a lower net present value to the securitization trust than is available through foreclosure
- Rationale: reduced documentation re-underwriting of borrowers, intended to maximize efficiencies and adoption of modification
- Consequences: moral hazard – inducement to default; it is clear that house price depreciation weakens a borrower's attachment to their house
  - Large near term re-default rates in a falling house price cycle can cause losses to exceed what would have been realized through foreclosure
  - Guaranteed payments will defray losses to bondholders (depending upon the attachment point of the guaranty and its size)
  - Bondholder losses will still likely be higher than what would occur given adequate servicing
  - Unlikely to fundamentally resolve the core issue

### Servicer Safe Harbor

- Purpose: absolves the servicer from any liability from actions taken when pursuing loan modifications that may be contrary to specific provisions in individual PSAs
- Objective: foreclosure prevention by shielding servicers from investor lawsuits which are ostensibly inhibiting modifications



- Rationale: a red herring, as servicers have virtually no restrictions regarding modification activities under the PSA; this is a popular scapegoating technique that allows servicers to avoid responsibility for being generally ineffective with respect to resolving delinquencies outside of foreclosure
  - Evidence that this is a non-issue is the lack of investor lawsuits being filed against servicers (the one prominent such lawsuit – Grais v. Countrywide/Bank of America – is not about modification practices; it is about settling predatory origination complaints through loan modifications on loans not owned by Countrywide/Bank of America)
- Consequence: establishing a safe harbor implies that something is being done that is inconsistent with a servicer's duty to investors as set forth in the PSA, resulting in unquantifiable risk of bondholder loss through inappropriate servicing

#### Bankruptcy Reform Legislation

- Objective: foreclosure prevention by allowing bankruptcy judges to reduce the principal balance of first-lien primary residence mortgage loans in Chapter 13 bankruptcy and modify borrowers' mortgage and other debt; there is no foreclosure decision
- Rationale: the intent of this legislation is to encourage, and almost force, servicers to modify loans on their own or risk judicial instruction as to what type of modification and how much to modify
- Consequence: introduces moral hazard – inducement to file bankruptcy; this is a stronger inducement than SMP is to default, as the borrower can have all of their debt reduced – more borrowers will file bankruptcy than otherwise would have

#### Hope for Homeowners

- Objective: prevent foreclosure by providing borrowers an opportunity to refinance into an affordable FHA program
- Rationale: Motivate servicers/lenders to refinance delinquent borrowers out of RMBS securitizations, after providing borrower equity (currently 90% mark-to-market combined loan to value (CLTV) – an amendment has been introduced which would increase the CLTV to 93%)
- Consequence: bondholder losses are limited to the principal reduction necessary to achieve the targeted CLTV
  - Reunites the ownership of the loan and the servicing – this eliminates conflicts of interest between the servicer and the investor inherent in securitization
  - The practical impact to the trust is the same as a short sale (allowing the borrower to satisfy their debt at something less than the contractual balance)

#### Temporary Foreclosure Moratoriums

- Objective: prevent foreclosure by delaying the process, providing additional time for a resolution other than foreclosure

- Rationale: belief is that inadequate time and effort has been focused on loss mitigation and delinquency resolution and that this measure will remediate that inadequacy
- Consequence: since it is unlikely that a borrower's circumstances (ability and/or willingness to perform on the loan) will change during the term of the moratorium, this will increase bondholder losses as delinquencies accumulate and house prices continue to fall
  - This has the ancillary, systemic benefit of re-establishing direct ownership of the loan and the servicing

#### Delinquent Loan Purchase Programs

- Objective: prevent foreclosure by establishing ownership more willing to pursue delinquency resolutions that will keep borrowers in their current house
- Rationale: addresses the supposed recalcitrance of servicers to modify borrowers' loans
- Consequence: the trust will experience a loss, which is limited to par minus the purchase price
  - Eliminates any future loss from the trust
  - Re-establishes direct ownership of the loan
  - From the bondholder's standpoint, this is extremely similar to a borrower refinancing into Hope for Homeowners or a short sale



The following table gives an overview of the Servicer Exposure in the overall NCUA portfolio.

Servicer	Sum of Current Face	% of Non Agency RMBS
(b)(4)	12,303	27.56%
	7,306	16.37%
	6,165	13.81%
	3,534	7.92%
	2,875	6.44%
	2,200	4.93%
	1,548	3.47%
	1,455	3.26%
	1,403	3.14%
	978	2.19%
	776	1.74%
	764	1.71%
	358	0.80%
	327	0.73%
	323	0.72%
	289	0.65%
	277	0.62%
	215	0.48%
	207	0.46%
	204	0.46%
	194	0.43%
	150	0.34%
	92	0.21%
	86	0.19%
	64	0.14%
	62	0.14%
	55	0.12%
	55	0.12%
	51	0.11%
	49	0.11%
	47	0.11%

## Portfolio Analysis – Summary Presentation



Key Risks

## Impact of Loan Foreclosure Prevention Policies

(b)(4)

## Impact of Loan Foreclosure Prevention Policies (Continued)

(b)(4)



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## Credit Contraction Will Limit Refinancing

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SOURCE: PIMCO, (b)(4)

## Leverage - Structural Leverage

(b)(4)

SOURCE PIMCO

## Operational Leverage of Loan Servicing

(b)(4)

SOURCE PIMCO (b)(4)



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## Weaker Pools Are Being Serviced by Weaker Servicers

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(b)(4)

SOURCE: PIMCO, (b)(4)

\* Represents servicers who account for more than 10bps of servicing in the portfolio.

## Monoline Exposure

(b)(4)

SOURCE: PIMCO

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## Portfolio Credit Risk Is Sensitive to Interest Rate Movements

(b)(4)



## Modification Summary

	Bankruptcy Reform (Principal Cramdown)	Hope for Homeowners	HASP version 1	HASP version 2
Subprime Current Pay	(1) Decreases Credit Support (2) Increases Probability Of Downgrade (3) Risk Of Interest Shortfalls (4) Marginal Increase In Probability Of Writedown (5) Keeps Loan In Pool	(1) Targeted Borrower Cohort (2) Decreases Credit Support (3) Increases Probability Of Downgrade (4) Results In A Prepayment (5) De- Leveraging Partially Offsets Decreased Credit Support (6) Shortens Average Life (7) Decreases Probability Of Writedown (8)	(1) Incentivizes Servicers To Reduce Payment (2) Interest-Rate Reductions And Term Extensions (3) Temporary Reduction In Cdr (4) Extension Risk (5) Risk Of Interest Shortfall (6) Increases Risk Of Downgrade	(1) Incentivizes Servicers To Reduce Payment (2) Servicers Will Compete With Bk Cramdown Which May Result In Marginally Higher Principal Reductions (3) See Bankruptcy Reform
Subprime Non- Current Pay	(1) Decreases Credit Support (2) Increases Likelihood Of Downgrade (3) Increased Risk Of Interest Shortfalls (3) More Exposed To Principal Writedown (4) Keeps Loan In Pool	(1) Targeted Borrower Cohort (2) Decreases Credit Support (3) Increases Probability Of Downgrade (4) Results In A Prepayment (5) De- Leveraging Partially Offsets Decreased Credit Support (6) Shortens Average Life (7) Decreases Probability Of Writedown (8)	(1) Incentivizes Servicers To Reduce Payment (2) Interest-Rate Reductions And Term Extensions (3) Temporary Reduction In Cdr (4) Extension Risk (5) Risk Of Interest Shortfall (6) More Substantial Increase In Risk Of Downgrade	(1) Incentivizes Servicers To Reduce Payment (2) Servicers Will Compete With Bk Cramdown Which May Result In Marginally Higher Principal Reductions (3) See Bankruptcy Reform
Subprime Subordinate	Likely To Result In Significant-To-Complete Principal Writedown	Likely To Result In Significant-To-Complete Principal Writedown	(1) Incentivizes Servicers To Reduce Payment (2) Interest-Rate Reductions And Term Extensions (3) Temporary Reduction In Cdr (4) Significant Risk Of Interest Shortfall (5) Extension Benefit	(1) Incentivizes Servicers To Reduce Payment (2) Servicers Will Compete With Bk Cramdown Which May Result In Marginally Higher Principal Reductions (3) See Bankruptcy Reform
Prime Senior	(1) Overall Less Exposure Due To Borrower Quality And Loan Limits (2) Decreases Credit Support (2) Increases Probability Of Downgrade (3) Risk Of Interest Shortfalls (4) Marginal Increase In Probability Of Writedown (5) Keeps Loan In Pool	Unlikely To Apply Due To Loan Limits And Other Program Eligibility Restrictions	Unlikely To Apply Due To Loan Limits And Other Program Eligibility Restrictions	Unlikely To Apply Due To Loan Limits And Other Program Eligibility Restrictions
Prime Subordinate	(1) Overall Less Exposure Due To Borrower Quality And Loan Limits (2) In The Event Of Significant Increases In Filings, Likely To Result In Significant-To-Complete Writedown (3) Keeps Loan In Pool	Unlikely To Apply Due To Loan Limits And Other Program Eligibility Restrictions	Unlikely To Apply Due To Loan Limits And Other Program Eligibility Restrictions	Unlikely To Apply Due To Loan Limits And Other Program Eligibility Restrictions
Alt-A Senior	(1) High Exposure Due To High Negative Equity For Qualifying Loan Limits (2) Decreases Credit Support (2) Increases Probability Of Downgrade (3) Risk Of Interest Shortfalls (4) Marginal Increase In Probability Of Writedown (5) Keeps Loan In Pool	Unlikely To Apply Due To Loan Limits And Other Program Eligibility Restrictions	Unlikely To Apply Due To Loan Limits And Other Program Eligibility Restrictions	Unlikely To Apply Due To Loan Limits And Other Program Eligibility Restrictions
Alt-A Subordinate	(1) High Exposure Due To High Negative Equity For Qualifying Loan Limits (2) Likely To Result In Significant-To-Complete Principal Writedown (3) Keeps Loan In Pool	Unlikely To Apply Due To Loan Limits And Other Program Eligibility Restrictions	Unlikely To Apply Due To Loan Limits And Other Program Eligibility Restrictions	Unlikely To Apply Due To Loan Limits And Other Program Eligibility Restrictions
Pay-option ARM Senior	(1) Maximum Exposure Due To High Negative Equity And Lack Of Other Options For Qualifying Loan Limits (2) Decreases Credit Support (3) Increases Probability Of Downgrade (4) Risk Of Interest Shortfalls (5) Increase In Probability Of Writedown (5) Keeps Loan In Pool	Unlikely To Apply Due To Loan Limits And Other Program Eligibility Restrictions	Unlikely To Apply Due To Loan Limits And Other Program Eligibility Restrictions	Unlikely To Apply Due To Loan Limits And Other Program Eligibility Restrictions
Pay-option ARM Mezzanine	(1) Maximum Exposure Due To High Negative Equity And Lack Of Other Options For Qualifying Loan Limits (2) Decreases Credit Support (3) Increases Probability Of Downgrade (4) Risk Of Interest Shortfalls (5) Substantial Increase In Probability Of Writedown	Unlikely To Apply Due To Loan Limits And Other Program Eligibility Restrictions	Unlikely To Apply Due To Loan Limits And Other Program Eligibility Restrictions	Unlikely To Apply Due To Loan Limits And Other Program Eligibility Restrictions
HELOC/ 2nd Lien	Significant-To-Complete Principal Writedown	Significant Principal Writedown Or Re- Subordination With Very Low Rate	N/A	N/A

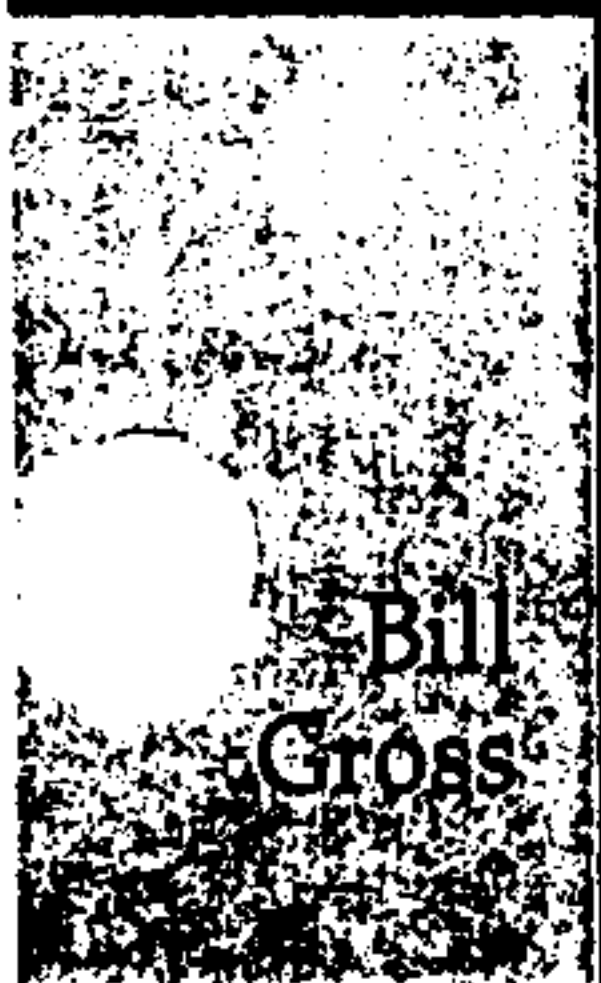




Portfolio Loss Assessment ignoring Benefit of Monoline														
					New									
					Base			Pessimistic			Optimistic			
Account	Portfolio	No. Unique Cusip	Par (\$MM)	Write-Down No Wrap (\$MM)	Write-Down No Wrap %	Write-Down No Wrap (\$MM)	Write-Down No Wrap %	PV	Write-Down No Wrap (\$MM)	Write-Down No Wrap %	PV	Write-Down No Wrap (\$MM)	Write-Down No Wrap %	PV
(b)(4)														
8951	Master	2,003	45,161	12,439	27.5%	12,675	28.1%	77.84	15,773	34.9%	71.41	8,538	18.9%	86.08

Note: Approx. 19.7% of par amounts are monoline wrapped bonds





# Investment Outlook

P I M C O

March 2009

## Hairy Lips Sink Ships

"Where's the bottom?" someone shouted at a recent PIMCO staff meeting. "Which market?" I shot back, which sort of ended the conversation, but provided little else in the way of an answer. The fact is (I should have said) that financial delevering affects most markets in the same way; they are similar trades. As unwinding leverage fails to be cushioned by a government check, prices go down on risk assets. Only the strong – or in this case – the highest quality assets survive. And so the bottom for risk assets is divorced and distinct from government guaranteed assets. "Where's the bottom and where's the top?" would have been a better question. No one knows of course, but we make educated guesstimates and try to communicate them to an enquiring public. We believe in giving a listener, as well as any one of our more than eight million individual clients, their money's worth.

One thing I've never done however, is provide expert testimony in front of a congressional subcommittee. Newport Beach probably doesn't have the cachet of Wall Street, or perhaps my style has

always been a little irreverent or my brain a little irrelevant – I'm not sure. In any case, I thought I'd create my own virtual testimony to a hypothetical committee delving into the complexities of our financial crisis. What follows is what might have taken place last week:

**Question:** Mr. Gross, is this a recession or a depression?

**Answer:** We don't know yet, Madame Congresswoman. Recessions are cyclical downturns of a relatively brief time frame, characterized by inventory corrections and addressed by low interest rates and mild doses of fiscal stimulus. Depressions are more extreme with double-digit levels of unemployment but defined more importantly by credit contraction and debt liquidation. The deflation that normally accompanies a depression is dangerous not because prices are going down, but because the "for sale" sign goes up on the credit markets which have always made capitalism possible. At the moment, you policymakers are attempting to prevent that. We shall see.

**Question:** How did this happen so fast?

**Answer:** Trillions of dollars of credit have been sucked out of the financial system over the past 12 months. Banks may be lending but the larger shadow banking system is not. All of those SIVs and credit default swaps that once generated credit are now contracting and pulling the real economy down with them. Think of it this way: If you had three or four pints of blood drained from your body you'd be on life support, very quickly. Same thing now. The solution is for government spending to simulate a transfusion of whole blood, plasma, or whatever's available.

**Question:** How bad could this get?

**Answer:** No one knows for sure, but common sense would provide a good guess. If the government cannot substitute credit to the same extent that it is disappearing from the private system, then the U.S. and global economies will retreat. If the economy is viewed as a bathtub filled with water (credit) at two different times with two different levels, then draining it back down to the lower first level might reduce economic activity proportionately. Liquidate debt (credit) to 2003 totals and you just might reduce economic activity (GDP) to 2003 numbers as well. Whoops! That would mean a 10%+ contraction in the economy with unemployment approaching the teens. Keep that bathtub full!

**Question:** What can be done?

**Answer:** Keeping the tub sufficiently full means advancing policies in content and magnitude never contemplated since the days of FDR. The U.S. and global financial systems require credit creation and foreclosure prevention, not bank nationalization as currently contemplated by some. Trillions will be required in the U.S. alone and it is critical that there be a high degree of policy coordination among all nations, which avoids protectionist measures reflective of failed policies in the 1930s. To date, PIMCO's Mohamed El-Erian's imperative of "shock and awe" has been more like "don't bother us, we're working on it." Get moving. Risk being bold – Washington.

**Question:** Are there no negative consequences from "shock and awe?" Will these policies destroy capitalism while trying to save it?

**Answer:** Good question. The substitution of the benevolent fist of government for the invisible hand of Adam Smith involves risk. The private system is the heart of capitalism and generates most of its productivity, so more government usually involves less prosperity and certainly more inflation. PIMCO recommends a 180-degree turn towards government only as a last resort. They have the only credible checkbook in town. Will those checks create inflation? Let's hope so provided it is low and



stable over time. Policymakers are more than vocal about attempting to reflate the economy, which in essence means a hoped for return to nominal GDP growth levels of 5-6%, the majority of which might actually come in the form of higher prices as opposed to increased production. This Faustian bargain would be acceptable if only to stabilize what now appears to be an even more dangerous deflationary debt liquidation.

**Question:** Why do we assume that the U.S. can unilaterally do whatever it wants?

**Answer:** Much like we are the world's strongest nation militarily, we entered this crisis with certain economic and financial strengths relative to all other nations. Our reserve currency status was the primary one which means that we can write checks in our own currency and they are accepted all over the world – sort of like American Express Travelers Cheques. This privilege, however, can be and is being abused. Travelers Cheques are acceptable only when redeemed at 100 cents on the dollar. Lately, quasi-American dollars in the form of Aaa CDOs, corporate bonds, and even national champion bank stocks have floundered closer to zero than par. There is fear on foreign shores that even U.S. agency debt may not be honored and that U.S. Treasury debt itself, when “repoed” as in prior years, may now suffer from counterparty risk. Global willingness to accept American dollars is

being tested. Granted, the U.S. currency has appreciated strongly against its counterparts during most of this crisis, but technical short covering as opposed to a flight to quality may have been the dominant consideration. Watch the dollar. If it falls hard, there may be nothing policymakers can do to restore the ensuing financial chaos.

**Question:** What do you think about nationalizing the banks?

**Answer:** I think Roubini, Dodd and Greenspan haven't thought this one through. The U.S. isn't Sweden, and not just because our blondes aren't au naturel. Their successful approach revolved around a handful of banks but we have 7,500, as well as many S&Ls and credit unions, which would have to be flushed into government hands. Regulators are overwhelmed as it is, and if you thought Lehman Brothers was a mistake, just standby and see what nationalizing Citi or BofA would do. Our banks remain at the heart of domestic/global financial transactions and daily clearing, while those Scandinavian banks were not. PIMCO would not dispute the need to further capitalize systemically important banks via convertible bonds held by the government, which unfortunately dilute shareholders' interests. To go further, however, and “haircut” senior debt or even existing preferred stock similar to that issued via the TARP would create an instability policymakers should not



want to risk. In turn, forcing creditors to take haircuts would undermine other financial sectors such as insurance companies and credit unions. The goal of future policy should be to recapitalize lending institutions while maintaining the basic infrastructure of credit markets. Outright nationalization and haircutting of creditors will do just the opposite.

**Question:** Enough already about this still confusing crisis – how should I invest my own money?

**Answer:** I'd give you an invitation to our PIMCO client conference next month in Newport Beach if you weren't so busy here in Washington. Its theme is titled "Evolution or Revolution – The Future of Investing." No golf or vintage wines though – just cheeseburgers and interesting conversation. But come on out if you care. I'm sure we'll stress our current theme of "shake hands with Uncle Sam" – buying agency mortgages, and other developing areas of government policy support in the credit markets. But we'll talk about the future of stocks too, leveraging and deleveraging, globalization and deglobalization, and why safe secure income may be the most desirable

investment in this evolving economic and financial crisis. Tell you what, Madame Congresswoman, if you can't make it I'll write it up in next month's *Investment Outlook*.

**Question:** Well thanks, Mr. Gross, but one last thing. Whatever happened to your mustache?

**Answer:** My mother always said there was something shady about a man with hair on his lip, but then she'd never met Mohamed El-Erian and Paul McCulley whose mothers undoubtedly approve. I think my mom watched too many Charlie Chan movies in her day, but I can't be sure. We feel the same way about this economy though, Madame Congresswoman. It's hard to trust policymakers; there's too little consistency, not enough boldness, and too much political game playing. Say a little prayer will ya, but tell those Congressmen to shave their lips just in case.

William H. Gross  
Managing Director

#### **IO Podcast...**

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